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DEPARTMENT OF BIOCHEMISTRY

PAUL BERG  
*Willson Professor of Biochemistry*

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Dr. Dan Nathans  
Department of Microbiology  
Johns Hopkins School of Medicine  
Baltimore, Maryland 21205

Dear Dan,

It was a real pleasure to see and talk to you at the Cold Spring Harbor meeting. I see from the program of the Miami Winter Symposium that we'll have that opportunity again in January.

It seems that both our labs have adopted a similar approach to completing the map of SV40. That's all to the good since I'm sure that our two sets of findings with the mutants we construct will be sufficient to define the physical limits and functions of the various genetic elements (structural, regulatory and developmental).

One way to facilitate that would be to keep in touch about what mutants we've obtained and what they do. I know that you share the view that where practical it would be helpful to exchange mutants between our two labs. In doing so it would be reasonable to explain the purposes of the exchange so we don't end up trying to do identical experiments and fostering competition. I'd like to try to develop a more cooperative than competitive arrangement.

If there's any of our deletion mutants you think you could use please feel free to write to me (or call) about them. As I indicated to you when we spoke there are several of the published ones you've made that we'd like to have. Could we get your early mutants dl1001, dl1002 and dl1009? Luis Villarreal is <sup>44-55-14</sup>trying to look at the early SV40 RNA produced after infection with ~~those~~ mutants and we'd like to include as many mutants with deletions in the early segment as possible. If you're doing or planning to do the same experiments perhaps we can work at a way to avoid repetitious efforts.

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Letter to Daniel Nathans

Another particularly interesting mutant you have reported on is dl 1003 with a deleted HindII and III fragment E (0.86-.945). Since Fiers says the VP1 protein has its initiator codon in fragment K it is of interest to know if dl 1003 is B<sup>-</sup>; we expect it will be D<sup>-</sup> and E<sup>-</sup> but is it B<sup>-</sup>, C<sup>-</sup> and BC<sup>-</sup>? If it is why? Is there a late RNA made? How big? Is there a 16S RNA made? Is processing of 19S RNA → 16S RNA affected? Perhaps a "16S" RNA is made but can't bind ribosomes to initiate VP1 translation. Mutant dl 1003 would be useful to sorting out the function of the region just preceding the VP1 structural gene (aside from the fact that it is probably structural information for VP2 and 3.

I also spoke to you about our efforts to transform cells with DNA and your success was encouraging. Could we get your protocol and cells (rat and BALB/3T3) to do that? Any hints or advice would be greatly appreciated. Seems many people find DNA mediated transformation a bit tricky and variable.

I and many of the people at Stanford would love to have you visit. Is there some time prior to January 1, 1977, (I go on sabbatical just after the first of the year) that you will be out this way or could come to visit and give a seminar? I'd like to try to find a date for such a visit when I'll be here.

With best regards,

Sincerely,

Paul.